

What is claimed is:

1. A semiconductor device, comprising:
 - a semiconductor substrate having a first region and a second region;
 - a first insulating film formed over said semiconductor substrate in said first region;
 - a second insulating film formed over said first insulating film in said first region and over said semiconductor substrate in said second region;
 - a first conductive layer formed over said second insulating film in said first region; and
 - a second conductive layer formed over said second insulating film in said second region,

wherein a dielectric constant of said first insulating film is smaller than that of said second insulating film.
2. A semiconductor device according to claim 1, wherein said first insulating film is an insulating film containing silicon oxide as a main component.
3. A semiconductor device according to claim 1, wherein said first insulating film is formed of a silicon oxynitride film.
4. A semiconductor device according to claim 1, wherein said dielectric constant of said second insulating film is more than 8.0.

5. A semiconductor device according to claim 1, wherein said second insulating film is formed of one selected from the group consisting of titanium dioxide, hafnium dioxide, alumina, zirconium dioxide, ruthenium dioxide, PZT, PLT, PLZT, PbTiO₃, SrTiO₃, BaTiO₃, BST, SBT, and Ta₂O₅.

6. A semiconductor device according to claim 1, wherein said first and second conductive layers are formed of one selected from the group consisting of a polycrystalline silicon film by itself, a laminated film of a polycrystalline silicon film and a refractory metal silicide film, and a laminated film of a polycrystalline silicon film and a refractory metal film.

7. A semiconductor device according to claim 6, wherein said polycrystalline silicon film by itself includes germanium.

8. A semiconductor device, comprising:
a semiconductor substrate; and
a first MISFET and a second MISFET formed over said semiconductor substrate, said first MISFET having a first gate insulating film constituted as a laminated film and said second MISFET having a second gate insulating film,
wherein said first gate insulating film includes a first insulating film having a smaller relative dielectric constant than that of a silicon nitride film and a second insulating film having a larger relative dielectric constant than that of a silicon nitride film, and
wherein said second gate insulating film includes said second insulating film.

9. A semiconductor device according to claim 8, wherein said first insulating film is an insulating film containing silicon oxide as a main component.

10. A semiconductor device according to claim 8, wherein said first insulating film is an insulating film formed of a silicon oxynitride film.

11. A semiconductor device according to claim 8, wherein said dielectric constant of said second insulating film is more than 8.0.

12. A semiconductor device according to claim 8, wherein said second insulating film is formed of one selected from the group consisting of titanium dioxide, hafnium dioxide, alumina, zirconium dioxide, ruthenium dioxide, PZT, PLT, PLZT, PbTiO_3 , SrTiO_3 , BaTiO_3 , BST, SBT, and Ta_2O_5 .

13. A semiconductor device according to claim 8,
wherein said first and second MISFETs include a gate electrode respectively,
and

wherein said gate electrodes of said first and second MISFETs are formed of one selected from the group consisting of a polycrystalline silicon film by itself, a laminated film of a polycrystalline silicon film and a refractory metal silicide film, and a laminated film and a polycrystalline silicon film and a refractory metal film.

14. A semiconductor device according to claim 13, wherein said polycrystalline silicon film by itself includes germanium.

15. A semiconductor device according to claim 8, wherein said first MISFET operates on a voltage higher than that of said second MISFET.

16. A semiconductor device, comprising:

a semiconductor substrate; and
a first MISFET and a second MISFET formed over said semiconductor substrate, said first MISFET having a first gate insulating film and said second MISFET having a second gate insulating film thinner than said first gate insulating film,
wherein said first gate insulating film includes a first insulating film and a second insulating film having a larger relative dielectric constant than that of said first insulating film, and
wherein said second gate insulating film includes said second insulating film.

17. A semiconductor device according to claim 16, wherein said first insulating film is an insulating film containing silicon oxide as a main component.

18. A semiconductor device according to claim 16, wherein said first insulating film is an insulating film formed of a silicon oxynitride film.

19. A semiconductor device according to claim 16, wherein said dielectric constant of said second insulating film is more than 8.0.

20. A semiconductor device according to claim 16, wherein said second insulating film is formed of one selected from the group consisting of titanium dioxide, hafnium dioxide, alumina, zirconium dioxide, ruthenium dioxide, PZT, PLT, PLZT, PbTiO_3 , SrTiO_3 , BaTiO_3 , BST, SBT, and Ta_2O_5 .

21. A semiconductor device according to claim 16,
wherein said first and second MISFETs include a gate electrode, respectively,
and

wherein said gate electrodes of said first and second MISFETs are formed of
one selected from the group consisting of polycrystalline silicon film by itself, a
laminated film of a polycrystalline silicon film and a refractory metal silicide film, and
a laminated film of a polycrystalline silicon film and a refractory metal film.

22. A semiconductor device according to claim 21, wherein said
polycrystalline silicon film by itself includes germanium.

23. A semiconductor device according to claim 16, wherein said first MISFET
operates on a voltage higher than that of said second MISFET.